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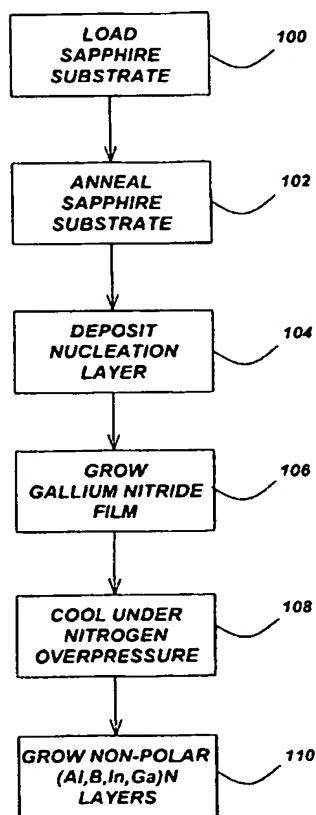
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**(54) Title: NON-POLAR (Al,B,In,Ga)N QUANTUM WELLS**



**(57) Abstract:** A method of fabricating non-polar a-plane GaN / (Al<sub>x</sub>B<sub>y</sub>In<sub>z</sub>Ga)N multiple quantum wells (MQWs). The a-plane MQWs are grown on the appropriate GaN / sapphire template layers via metalorganic chemical vapor deposition (MOCVD) with well widths ranging from 20 Å to 70 Å. The room temperature photoluminescence (PL) emission energy from the a-plane MQWs followed a square well trend modeled using self-consistent Poisson-Schrodinger (SCPS) calculations. Optimal PL emission intensity is obtained at a quantum well width of 52 Å for the a-plane MQWs.



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